



December 14, 2018

ArcelorMittal USA, Inc.  
3210 Watling Street  
East Chicago, IN 46312

Work Order No.: 18L0457

Re: 3SP - LMF

Dear Lou Claich:

Microbac Laboratories, Inc. - Chicagoland Division received 1 sample(s) on 12/7/2018 3:20:00PM for the analyses presented in the following report as Work Order 18L0457.

The enclosed results were obtained from and are applicable to the sample(s) as received at the laboratory. All sample results are reported on an "as received" basis unless otherwise noted.

All data included in this report have been reviewed and meet the applicable project specific and certification specific requirements, unless otherwise noted. A qualifications page is included in this report and lists the programs under which Microbac maintains certification.

This report has been paginated in its entirety and shall not be reproduced except in full, without the written approval of Microbac Laboratories.

We appreciate the opportunity to service your analytical needs. If you have any questions, please contact your project manager. For any feedback, please contact Ron Misiunas, Division Manager, at [ron.misiunas@microbac.com](mailto:ron.misiunas@microbac.com).

Sincerely,  
Microbac Laboratories, Inc.

A handwritten signature in black ink that reads "Carey Gadzala". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Carey Gadzala  
Project Manager

[Microbac Laboratories, Inc.](http://www.microbac.com)

250 West 84<sup>th</sup> Drive | Merrillville, IN 46410 | 800.536.8379 p | 219.769.8378 p | 219.769.1664 f | [www.microbac.com](http://www.microbac.com)

**WORK ORDER SAMPLE SUMMARY****Date:** *Friday, December 14, 2018***Client:** ArcelorMittal USA, Inc.**Project:** 3SP - LMF**Lab Order:** 18L0457

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
18L0457-01	LMF Dust		12/06/2018 14:00	12/7/2018 3:20:00PM

Microbac Laboratories, Inc.

250 West 84<sup>th</sup> Drive | Merrillville, IN 46410 | 800.536.8379 p | 219.769.8378 p | 219.769.1664 f | [www.microbac.com](http://www.microbac.com)

## Analytical Results

Date: Friday, December 14, 2018

Client: ArcelorMittal USA, Inc.

Client Project: 3SP - LMF

Client Sample ID: LMF Dust

Sample Description:

Matrix: Solid

Work Order/ID: 18L0457-01

Sampled: 12/06/2018 14:00

Received: 12/07/2018 15:20

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
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Method: 1311/6010C							Analyst: BTM	
Prep Method: SW-846 1311/SW846 3005A							Prep Date/Time: 12/12/2018 08:34	
TCLP Metals by ICP								
Arsenic	dil	A	ND	0.0100		mg/L	1	12/12/2018 15:00
Barium	dil	A	ND	0.500		mg/L	1	12/12/2018 15:00
Cadmium	dil	A	ND	0.00200		mg/L	1	12/12/2018 15:00
Chromium	dil	A	3.30	0.00500		mg/L	1	12/12/2018 15:00
Lead	dil	A	ND	0.00750		mg/L	1	12/12/2018 15:00
Selenium	dil	A	43.8	0.300		mg/L	10	12/13/2018 16:52
Silver	dil	A	ND	0.0100		mg/L	1	12/12/2018 15:00

Method: 1311/7470A						Analyst: JNH		
Prep Method: SW-846 1311/SW-846 7470						Prep Date/Time:12/12/2018 08:49		
TCLP Mercury by CVAA								
Mercury	dil	A	ND	0.0010		mg/L	1	12/13/2018 10:29

**FLAGS, FOOTNOTES AND ABBREVIATIONS (as needed)**

B = Detected in the associated method Blank at a concentration above the routine RL  
 b- = Detected in the associated method Blank at a concentration greater than 2.2 times the MDL  
 b\* = Detected in the associated method Blank at a concentration greater than half the RL  
 CFU = Colony forming units  
 D = Dilution performed on sample  
 DF = Dilution Factor  
 g = Gram  
 E = Estimated Value  
 H = Analyte was prepared and/or analyzed outside of the analytical method holding time  
 I = Matrix Interference  
 J = Analyte concentration detected between RL and MDL (Metals / Organics)  
 LOD = Limit of Detection  
 LOQ = Limit of Quantitation  
 m3 = Meters cubed  
 MDL = Method Detection Limit  
 mg/Kg = Milligrams per Kilogram (ppm)  
 mg/L = Milligrams per Liter (ppm)  
 NA = Not Analyzed  
 ND = Not Detected at the Reporting Limit (or the Method Detection Limit, if used)  
 NR = Not Recovered  
 R = RPD outside accepted recovery limits  
 RL = Reporting Limit  
 S = Spike recovery outside recovery limits  
 Surr = Surrogate  
 U = Undetected  
 > = Greater than  
 < = Less than  
 % = Percent  
 \* = Result exceeds project specific limits

**ANALYTE TYPES: (AT)**

A,B = Target Analyte  
 I = Internal Standard  
 M = Summation Analyte  
 S = Surrogate  
 T = Tentatively Identified Compound (TIC, concentration estimated)

**QC SAMPLE IDENTIFICATIONS**

BLK = Method Blank	ICSA = Interference Check Standard "A"
DUP = Method Duplicate	ICSAB = Interference Check Standard "AB"
BS = Method Blank Spike	BSD = Method Blank Spike Duplicate
MS = Matrix Spike	MSD = Matrix Spike Duplicate
ICB = Initial Calibration Blank	ICV = Initial Calibration Verification
CCB = Continuing Calibration Blank	CCV = Continuing Calibration Verification
CRL = Client Required Reporting Limit	OPR = Ongoing Precision and Recovery Standard
PDS = Post Digestion Spike	SD = Serial Dilution
QCS = Quality Control Standard	

**CERTIFICATIONS (Certs)**

Below is a list of certifications maintained by the Microbac Merrillville Laboratory. All data included in this report has been reviewed for and meets all project specific and quality control requirements of the applicable accreditation, unless otherwise noted. Complete lists of individual analytes pursuant to each certification below are available upon request.

- <sup>d</sup> Illinois EPA drinking water, wastewater and solid waste analysis (#200064)
- <sup>i</sup> Kansas Dept Health & Env. NELAP (#E-10397)
- <sup>l</sup> North Carolina DENR NPDES effluent, surface water (#597)

Cooler Receipt Log

Cooler ID: Default Cooler

Temp: 20.0°C



Cooler Inspection Checklist

Ice Present or not required?	Yes
Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes
Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes
Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes
Sample type identified on COC?	Yes
Correct containers listed on COC?	No
Correct number of containers listed on COC?	Yes
Containers Intact?	Yes
COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes
Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes
Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes
Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	No
Trip Blank(s) Present or not required?	Yes



Reply all | Delete Junk |

TCLP?

CG Carey Gadzala  
Today, 11:34 AM  
Nicole Rainwater

1 Reply all |

Inbox

You like this

8 RCRA

Sent from my iPhone

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